

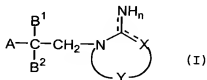
Page 48, line 1, cancel "ABSTRACT" and insert ABSTRACT OF THE

A5 DISCLOSURE--

IN THE CLAIMS

Please amend Claims 1, 3-6, and 8-12 as follows:

1. (Amended) Heterocyclic compounds represented by the formula (I):



wherein:

A 6 A is an optionally substituted alkyl group; optionally substituted aryl group; or optionally substituted heterocyclic group;

B¹ and B² are each a hydrogen atom; an alkyl group; or a hydroxyl group; or combined together form a carbonyl group;

X is an oxygen atom; sulfur atom; carbon atom; or nitrogen atom;

the dotted line shows either the presence or absence of a bond;

n is an integer of 1 or 2; and

Y is:

(1) when X is an oxygen atom, the group -Y-X- is -CH₂-CH₂-O- or -CH₂-CH₂-CH₂-O-;

(2) when X is a sulfur atom, the group -Y-X- is -CH₂-CH₂-S- or -C(R¹)=C(R²)-S-, wherein R¹ and R² are each a hydrogen atom; halogen atom;

optionally substituted alkyl group; optionally substituted aryl group; or optionally substituted heterocyclic group;

(3) when X is a carbon atom, the group -Y-X- is -CH₂-CH₂-CH₂-, -CH₂-CH₂-CH₂-CH₂-, -CH=C(R³)-C(R⁴)=CH- or -N=C(R⁵)-C(R⁶)=CH-, wherein R³, R⁴, R⁵ and R⁶ are each a hydrogen atom; halogen atom; optionally substituted alkyl group; optionally substituted aryl group; or optionally substituted heterocyclic group; and,

(4) when X is a nitrogen atom, the group -Y-X- is -CH₂-CH₂-NH-, -CH₂-CH₂-CH₂-NH-, -C(R⁷)=C(R⁸)-N=, or -C(R⁹)=C(R¹⁰)-C(R¹¹)=N-, wherein R⁷, R⁸, R⁹, R¹⁰ and R¹¹ are each a hydrogen atom; halogen atom; optionally substituted alkyl group; optionally substituted aryl group; or optionally substituted heterocyclic group; or pharmaceutically acceptable salts thereof.

3. (Amended) A composition useful as an activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors comprising the compound or pharmaceutically acceptable salt thereof claimed in claim 1 or 2, as the active ingredient.

4. (Amended) A composition according to claim 3, wherein said activators are agonists or modulators at $\alpha 4\beta 2$ nicotinic acetylcholine receptors.

5. (Amended) A medicament for preventing or treating cerebral circulation diseases comprising an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 3.

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6. (Amended) A medicament for preventing or treating neurodegenerative disease, dementia, motor ataxia, and neuropathy and mental disease comprising an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 3.

8. (Amended) A medicament for improving cerebral metabolism, neurotransmission functional disorder and memory disorder, for protecting the brain, or for providing analgesic effect, which comprises an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 3.

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9. (Amended) A medicament for preventing or treating inflammatory intestinal diseases comprising an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 3.

10. (Amended) A method of activating $\alpha 4\beta 2$ nicotinic acetylcholine receptors in a patient comprising administering an effective amount of a compound as claimed in claim 1 or 2 to said patient.

11. (Amended) A method of preventing or treating cerebral circulation diseases which comprises administering an effective amount of an activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 3.

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12. (Amended) A method of preventing or treating neurodegenerative disease, dementia, motor ataxia, and neuropathy and mental disease which comprises administering an effective amount of an activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 3.

Please insert the following new claims:

14. (New) A medicament for preventing or treating cerebral circulation diseases comprising an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 4.

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15. (New) A medicament for preventing or treating neurodegenerative disease, dementia, motor ataxia, and neuropathy and mental disease comprising an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 4.

16. (New) The medicament according to claim 15, wherein said neurodegenerative disease is Alzheimer's disease or Parkinson's disease, said dementia is cerebrovascular dementia, said motor ataxia is Tourette's syndrome, and said neuropathy and mental disease is neurosis during chronic cerebral infarction stage, anxiety or schizophrenia.

17. (New) A medicament for improving cerebral metabolism, neurotransmission functional disorder and memory disorder, for protecting the brain, or for providing analgesic effect, which comprises an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 4.

18. (New) A medicament for preventing or treating inflammatory intestinal diseases comprising an effective amount of the activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 4.

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19. (New) A method of preventing or treating cerebral circulation diseases which comprises administering an effective amount of an activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 4.

20. (New) A method of preventing or treating neurodegenerative disease, dementia, motor ataxia, and neuropathy and mental disease which comprises administering an effective amount of an activator for $\alpha 4\beta 2$ nicotinic acetylcholine receptors claimed in claim 4.

21. (New) The method according to claim 20, wherein said neurodegenerative disease is Alzheimer's disease or Parkinson's disease, said dementia is cerebrovascular dementia, said motor ataxia is Tourette's syndrome, and said neuropathy and mental disease is neurosis during chronic cerebral infarction stage, anxiety or schizophrenia.

22. (New) A composition according to claim 3, further comprising a pharmaceutically acceptable carrier or excipient for oral or parenteral administration.

23. (New) A composition according to claim 22, wherein said carrier or excipient is selected from the group consisting of polyvinyl pyrrolidone, gum arabic, gelatin, sorbitol, cyclodextrin, magnesium stearate, talc, polyethylene glycol, polyvinyl alcohol, silica, lactose, crystalline cellulose, sugar, starch, calcium phosphate, vegetable oil, carboxymethyl-cellulose, hydroxypropylcellulose, sodium lauryl sulfate, water, ethanol, glycerol, mannitol, syrup and mixtures thereof.

24. (New) A composition according to claim 23 in unit dosage form.

25. (New) A composition according to claim 22, wherein said carrier is an isotonic solution.

26. (New) A method according to claim 10, comprising administering said compound orally.

27. (New) A method according to claim 26, wherein said effective amount is about 0.001-1,000 mg/kg body weight.

28. (New) A method according to claim 27, wherein said effective amount is 0.01-100 mg/kg body weight.

29. (New) A method according to claim 28, wherein said effective amount is 0.1-10 mg/kg body weight.

30. (New) A method according to claim 10, comprising administering said compound parenterally.

19 31. (New) A method according to claim 30, wherein said effective amount is about 0.00001-10 mg/kg body weight, from one to three times per day.

32. (New) A method according to claim 31, wherein said effective amount is 0.001-1 mg/kg body weight.

33. (New) A method according to claim 32, wherein said effective amount is 0.001-0.1 mg/kg body weight.

34. (New) Compounds according to claim 1, wherein the pharmaceutically acceptable salt is a salt of hydrochloric acid, hydrobromic acid, sulfuric acid, phosphoric acid, fumaric acid, maleic acid, oxalic acid, citric acid, tartaric acid, malic acid, lactic acid, succinic acid, benzoic acid, methanesulfonic acid, and p-toluenesulfonic acid.
